

## A BRIEF HISTORY OF THE ROCKET

### INTRODUCTION

Bernard Lubarsky  
2/7/45

The inventors, scientists and engineers, who develop ideas, seldom have control over the nature of their development. Alfred Nobel lived to see the explosive he had discovered to aid man, come close to destroying him. The pioneers of the automobile were not thinking of Tiger Tanks; the Wright brothers were not thinking of the B-29. The inventions of a peacetime world have startling applications in a world at war. In this manner the rocket was developed.

### EARLY HISTORY

The rocket was invented about 1000 years ago by the Chinese. It started as a plaything for the Khan and his family, being used much as the skyrocket is on the fourth of July. It didn't take the Chinese long to catch on though. Soon the rocket was being used against the Mongol invaders from the north. The rocket was attached to an arrow and shot from a bow. The arrow with rocket attached acted much as the fire-arrow of the American Indian. It was not a particularly successful weapon. Not nearly as successful as it was spectacular. This spectacularness led to its introduction into European civilization. The exact method by which the idea reached Europe is not known, but by 1400 it had arrived. The military implications were seen at once. A German engineer, Konrad von Eichstadt, gives us the first written description

of the rocket in his book, "Bellifortis", written in 1405. About fifteen years later an Italian, Joanes de Fontana proposed many military applications of the rocket, among which were rockets disguised as running hares, and birds in flight. Very little was actually done with the rocket as a weapon at this time. It returned to its former use as an amusement.

#### LATER DEVELOPMENTS

The rocket remained a toy for almost four-hundred years. But fate brought it out of retirement. The British, in their three cornered struggle with the French and the natives for possession of India, came upon the rocket used, once more, as a weapon of war. The rocket had come to India directly from China. In India, as in the rest of the world, it had been used as an amusement. About 1780, an Indian potentate, Hydar Ali, Prince of Mysor, saw the possibilities of the rocket as a weapon. He organized a rocket corp in his army which grew to about 5000 men. They used rockets against the British, but without great success. The rocket was effective to a small degree and because of this and the great amount of noise and smoke it gave off, it attracted the attention of the British. Various experiments were carried out on the rocket. The principal investigator was Sir William Congreve. He developed the rocket more in the span of his life than had all the men previous to him.

He changed the case from paper to metal; he enlarged the charge and increased the range; he made the rocket, for the first time, an effective weapon of war. After a couple of inconclusive trials, came the rockets first great success. In 1807, a British fleet discharged 25,000 rockets at the city of Copenhagen, Denmark, and burnt it to the ground. The nations of Europe frantically rushed rocket research, and by 1820, every country in Europe had a rocket corps. Rockets were used with varying success all over the world. The "rockets red glare, the bombs bursting in air" were Congreve rockets. Because of their inaccuracy, and because of the constant improvement of the cannon, the rocket corps were short lived. By 1870 the rocket was once more a toy, a fourth of July firework.

#### MODERN ROCKETRY

Rocketry was once again dormant, but not for long. The first stirrings of awakening came when, in 1903, a Russian, Ziolkovsky, suggested that rockets were the only means of solution to the problem of inter-planetary travelling. Nothing much was done on this idea until the 1920's. About 1920, three men; Dr. R.H. Goddard of America, Ronert Esnault-Pelterie of France, and Professor Hermann Oberth of Germany; unknown to each other, started the revival of the rocket. All were interested in it as a means of inter-planetary travel.

In 1927, the "Verein fur Raumschiffart E. V." ( Society for Space Navigation ) was formed in Breslau. The society included most of the German enthusiasts. The society built a series of small rockets, trying to build a successful rocket motor. Liquid fuel was introduced instead of the solid fuel of all previous rockets. Other societies sprang up all over the world, but none as active as the German one. Research went on all over the world. In 1934, the German society was brought to an abrupt end. At the order of Adolph Hitler, the society was disbanded and the members put to work designing rockets for war. The "fruits" of their labor can be seen in the many German rocket weapons; the nebelwarfer, a six barreled rocket mortar, the rocket-armed and rocket-propelled fighter planes, etc. The V-2 is merely an enlarged and improved version of the small German rocket ship.

Whether the rocket remains a weapon after this war, or whether they return to the fourth of July state again, is a moot point; but of one thing history assures us, in the next war, or the one after it, the rocket will be back. Developed in peace to aid man, it will help to destroy him.

BIBLIOGRAPHY

Cleator, P. E. "Rockets Through Space."  
New York; Simon & Schuster. 1936.

Ley, W. "Shells and Shooting."  
New York; Modern Age Books. 1942